DOCUMENT RESUME

ED 423 770 HE 031 616

AUTHOR	Fine, Kerry Kinney
TITLE	Higher Education Enrollments. Current Conditions and Recent Trends. January 1998.
INSTITUTION	Minnesota House of Representatives, St. Paul. Research Dept.
PUB DATE	1998-01-00
NOTE	42p.
AVAILABLE FROM	Research Department, Minnesota House of Representatives, 600 State Office Building, St. Paul, MN 55155; phone: 612-296-6753.
PUB TYPE	Numerical/Quantitative Data (110) -- Opinion Papers (120)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Community Colleges; Educational Policy; Educational Trends; Enrollment Projections; *Enrollment Trends; Higher Education; Policy Formation; Public Colleges; Public Sector; State Colleges; State Universities; *Trend Analysis
IDENTIFIERS	*Minnesota

ABSTRACT

This report on postsecondary enrollment trends in Minnesota was prepared in response to questions from state legislators concerning significant declines in enrollments at Minnesota state colleges and universities. Text, tables, and graphs provide a quantitative analysis of data derived primarily from the state higher education services office and from the Minnesota state colleges and universities system. Part 1 looks at enrollment trends across all of the postsecondary sectors from the mid-1980s through the mid-1990s. It also examines enrollment patterns of different groups and characteristics of students. Part 2 considers enrollment trends at the state universities in more depth. Part 3 offers some conclusions and policy implications. The report found the only identifiable factor paralleling enrollment changes was the level of state appropriations. The only factor identified that clearly contributed to a decline in freshman classes was the drop in participation of Minnesota high school graduates. The public sector (state universities and community/technical colleges) was found to have been most impacted by enrollment declines. Results have implications for policy concerning development of the state's labor force. (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

HE

ED 423 770

January 1998

Higher Education Enrollments

Current Conditions and Recent Trends

HE 031 616

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Minnesota House of Representatives

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

2

BEST COPY AVAILABLE

BEST COPY AVAILABLE

This report was prepared by **KERRY KINNEY FINE**, Legislative Analyst in the House Research Department.

Questions may be addressed to **KERRY** at 296-5049.

DAVID PETERSON, Research Assistant, provided computer support and assisted in the data analysis. **ROBERT LINSMIER** and **BARBARA PALMER**, former research assistants, provided assistance in background research, assembly of data, and initial database construction. **JESSICA WOHLWEND** provided secretarial support and **NINA MANZI** provided graphics layout.

Copies of this publication may be obtained by calling (612) 296-6753.

This publication can be made available in alternative formats upon request. Please (612) 296-6753 (voice); (612) 296-9896 or 1-800-657-3550 (TDD).

January 1998

Higher Education Enrollments

Current Conditions and Recent Trends

4A

Contents

List of Figures 1
Introduction 2

Part 1

Enrollment and Participation 4

Basic Enrollment Trends 5
Post-secondary Participation 9
Characteristics of Students and Enrollment 17

Part 2

State University Enrollment Trends 24

Part 3

Conclusions and Policy Implications 38

List of Figures

Figure 1: Undergraduate and Graduate Headcount and Full Year Equivalent 6

Figure 2: Enrollment Changes in the Two-year Sector 1986-1996
Headcount and FYE 6

Figure 3: Enrollment Changes in Four-year Sectors 1986-1996
Graduate and Undergraduate Headcount and FYE 8

Figure 4: Undergraduates as % of Headcount 8

Figure 5: First Year Participation of High School Graduates 1981-1995
Minnesota Institutions 10

Figure 6: % of 1995 High School Graduates Participating First Year
Minnesota and Out-of-State Institutions 10

Table : First Year Participation by Development Region—1995 11

Figure 7: First Year Participation by Development Region 1995 12

Figure 8: % of 1991 Graduates Participating Within Five Years
Minnesota Institutions 14

Figure 9: % Participating by Age 16

Figure 10: Changes in Minority Enrollment 18

Figure 11: Changes in % of Undergraduate Part-time Enrollment 20

Figure 12: % of Freshmen from Minnesota and Reciprocity States 20

Figure 13: Number of New Entering Freshmen (NEF) and Transfer Students 1986-1995 22

Figure 14: Changes in the Undergraduate and Graduate Headcount
State University Campuses 1986-1996 26

Figure 15: Number of New Entering Freshmen 28

Figure 16: NEF Growth and Decline Compared to Undergraduate Headcount Changes 28

Figure 17: Changes in Distribution of Students by Class Level 30

Figure 18: Changes in Number of Applicants Accepted and Enrolling 1990 and 1996 32

Figure 19: Proportion of NEF from Minnesota 34

Figure 20: Number and Sector of Origin of Students Transferring to State Universities 36

Introduction

Enrollment is always a subject of interest in post-secondary education. Each decade seems to have its own enrollment issue. From the 1960s until the mid-1970s, the state coped with its ability to meet the ever expanding enrollment. From the late 1970s until the mid-1980s, there was concern about predictions of drastic enrollment declines. By 1990, concern focused on the unexpected but dramatic growth in higher education.

Once again in the mid-1990s enrollment became an issue because of significant declines, particularly in the Minnesota state colleges and universities (MnSCU) institutions. This report was prepared in response to questions from legislators about the declines, and requests from the House Education Committee to try to explain why enrollments were down.

To put the recent enrollments in a broader context, Part 1 of the report looks at enrollment trends across all of the post-secondary sectors from the mid-1980s through the mid-1990s. It also looks at enrollment patterns of different groups and characteristics of students to see if there have been changes in these trends that might account for the variance in enrollment.

Because post-secondary education is such a large enterprise and encompasses so many campuses, it is often difficult to accurately see and comprehend changes at a statewide level. To minimize this problem, this report focuses on one sector. The state universities were chosen for this more in-depth look; Part 2 looks at enrollment trends and features on these campuses. Part 3 offers some conclusions from all of the quantitative analysis and offers some suggestions as to the policy implications of these findings.

Data for this report were compiled from a variety of sources, including the student record data base maintained by the higher education services office (HESO), system data from MnSCU and the Office of Planning and Analysis at the University of Minnesota, institutional research offices at several state university campuses, and previous House Research Department reports. Where these sources report different information, we have reconciled them as much as possible.

Minnesota post-secondary data are not of high quality. The primary source is the HESO data base but it suffers from numerous problems. Some of these problems are due to inaccurate reporting or no reporting from campuses, especially in the public two-year sector. Other problems come from HESO's maintenance of the data in which problems and inaccuracies are not corrected. There have also been changes in data collection causing inconsistencies over time that prevent accurate historical comparisons. We have tried to reconcile and compensate for the problems in all of these areas by collecting data from several sources and acquiring the student record data base for our own analysis. Unfortunately, the private colleges are not willing to allow anyone outside of HESO to analyze their data so this prevented correcting many problems in the information they report. In light of all of this, the data presented here are not fully accurate. However, they are sufficiently accurate that the trends and findings are supportable.

1. Enrollment and Participation

Part 1 examines undergraduate enrollment and student participation from the mid-1980s to the mid-1990s—a period of significant changes. It is divided into three sections: basic trends, participation, and student and enrollment characteristics. Each of these sections is organized as a series of questions and answers. Questions addressed in this part include:

A. Basic Enrollment Trends

- *How has undergraduate and graduate enrollment changed?*
- *How do changes in headcount and full year equivalent (FYE) enrollment in community/technical colleges compare when examined more closely?*
- *What have been the enrollment trends in the four-year sectors?*
- *Have these changes affected the proportions of undergraduates in each sector?*

B. Post-secondary Participation

- *How has the "rate of participation" of new high school graduates changed?*
- *How does the rate change if students going out of state are included?*
- *How do participation rates vary regionally in Minnesota?*
- *How much does the rate increase if participation is examined for five years after graduation?*
- *How has the participation of traditional and nontraditional students changed?*

C. Characteristics of Students and Enrollment

- *How have the enrollments of minority students changed?*
- *How have the enrollments of men and women changed?*
- *How have full- and part-time enrollments changed?*
- *How have the proportions of residents and nonresidents changed?*
- *Have the numbers of new entering freshmen and new transfer students changed?*

A. Basic Enrollment Trends

How has undergraduate and graduate enrollment changed?

The actual number of students enrolled in Minnesota post-secondary institutions increased substantially during the last decade and then declined. Total enrollment in all sectors was 215,000 in 1986, peaked at 258,000 in 1990, and then declined to 242,000 in 1996. The greatest changes have occurred in two sectors—the state universities and the community colleges. (As of 1994, data are no longer available in a format that allows separation of community and technical college enrollment, so they are shown together in the figures.) In both of these sectors enrollment increased dramatically in the late 1980s and early 1990s, followed by a substantial decline. The University of Minnesota, in a strategy endorsed by the legislature, deliberately reduced enrollment for a few years beginning in the late 1980s and continuing into the early 1990s. Its enrollment then stabilized. The private colleges have grown slowly and steadily throughout the period.

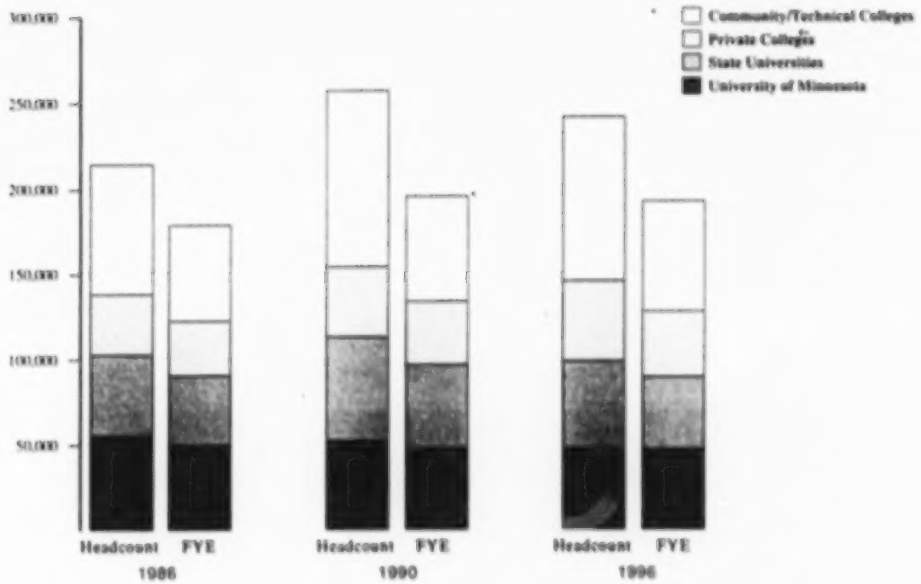
The change in enrollment is much less when measured in terms of full year equivalents (FYE). In 1986, total graduate and undergraduate FYE (excluding extension) was 179,000. This grew to 197,000 in 1990, and fell back to 193,000 in 1996. FYE is determined by taking total credit hours generated in a year and dividing by 45—the load of a full-time student.

Figure 1 on the opposite page compares headcount and full year equivalent enrollment at the beginning of this period, the peak in 1990, and the most recently completed academic year.

How do changes in headcount and full year equivalent (FYE) enrollment in community/technical colleges compare when examined more closely?

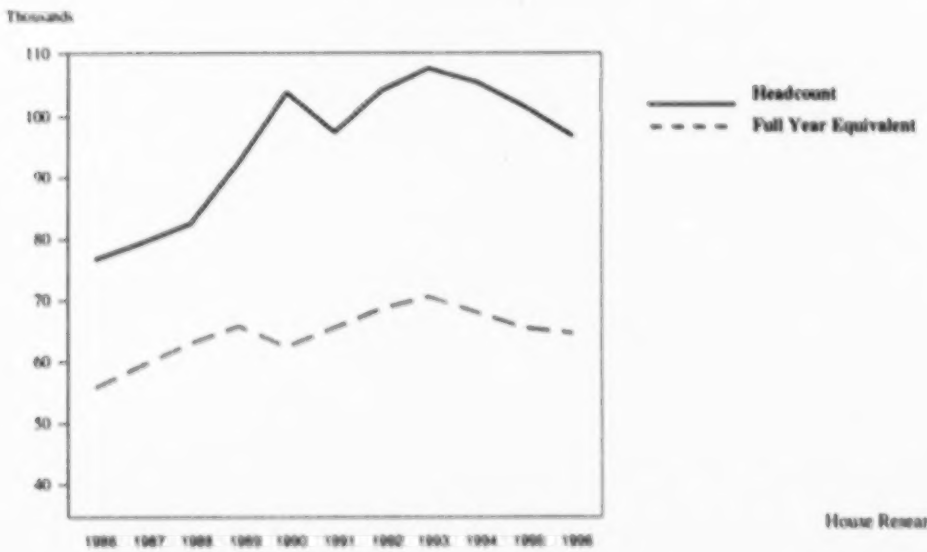
Figure 2 on the opposite page gives a closer look at the fluctuating enrollment patterns for this period in the community/technical college sector. In addition to the significant growth in the middle of this period, there is a major decline in the most recent years. The graph also shows the growth in the difference between headcount and FYE that began in the mid-1980s. Headcount grew by 30,000 while FYE grew by 14,000 between 1986 and 1993. This disparity is a result of changes in enrollment patterns in this sector as it began to enroll significantly more part-time students, many of nontraditional age who intended to take a course or two rather than seeking a degree. Additionally in the late 1980s, the technical colleges changed to a credit-based system which allowed students to more readily attend part-time or enroll in only selected courses.

Figure 1
Undergraduate and Graduate
Headcount and Full Year Equivalent (FYE)



House Research Graphic

Figure 2
Enrollment Changes in the Two-year Sector 1986-1996
Headcount and FYE



House Research Graphic

What have been the enrollment trends in the four-year sectors?

Figure 3 shows enrollment trends in the three sectors that also offer graduate studies. Each sector is represented by a pair of matching lines on the graph. The upper line in the pair represents headcount, the lower line represents FYE.

The two solid lines represent the state universities. They show the extreme changes in enrollment in this sector, particularly in headcount. From a base of 43,094, state university undergraduate headcount increased by 29% (12,600) between 1986 and 1990. It then declined by 18% (9,800) between 1990 and 1996. While the changes in FYE are not as extreme, the decline in the 1990s has returned the state universities to within 22 FYE of their 1986 undergraduate enrollment. While graduate headcount changed almost as dramatically on a percentage basis, it is such a small component of state university enrollment that it remained much more stable in actual numbers during this period, growing by 850 between 1986 and 1990, and then declining by 150 between 1990 and 1996.

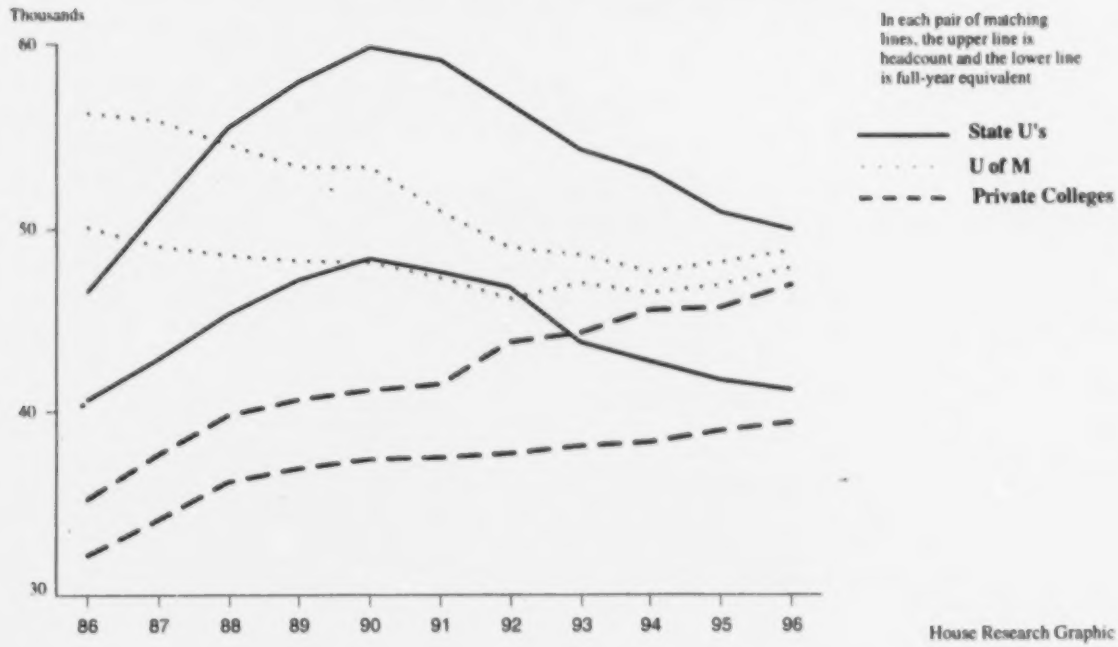
The dotted lines represent the University of Minnesota. As mentioned previously, the University decided to reduce its enrollment in the late 1980s. The reduction was targeted at the undergraduate level, in part to reduce the ratio of undergraduate to graduate students. At about the same time, the University began its undergraduate initiative, part of which focused on enrolling more full-time, better prepared undergraduates. One result of this is the narrowing of the difference between headcount and FYE enrollments.

The dashed lines represent the private colleges which have grown steadily over this same period, with their growth concentrated in the graduate area. Undergraduate headcount increased by about 4,000 between 1986 and 1990 and has remained nearly constant since. Undergraduate FYE maintained pace with headcount, as most private college undergraduates remain full-time. The graduate area grew markedly, particularly in the 1990s. Graduate headcount increased by nearly 200% (7,600) between 1986 and 1996. Many of these students attend part-time, increasing the difference between the headcount and FYE seen in Figure 3.

How have these changes affected the proportion of undergraduates in each sector?

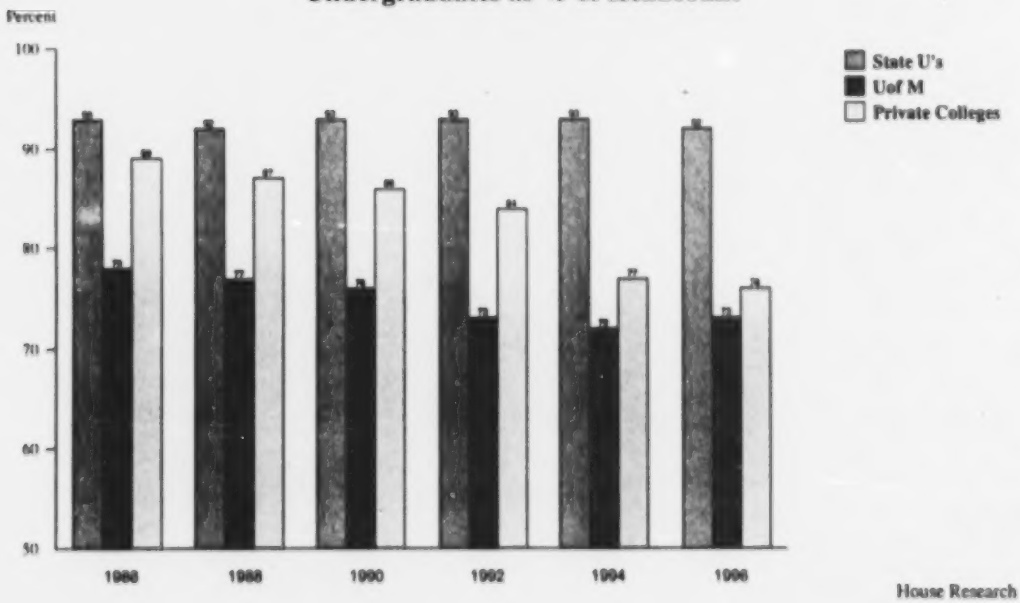
As Figure 4 shows, the proportion of undergraduate students fell at the University of Minnesota and at the private colleges. At the University this is a result of its plan to decrease undergraduate enrollment and to reduce the ratio of undergraduate to graduate students. At the private colleges, this is due substantially to the growth in graduate offerings at the University of St. Thomas and St. Mary's University. In the state universities there has been little change; the system remains over 90% undergraduate.

Figure 3
Enrollment Changes in Four-year Sector 1986-1996
Graduate and Undergraduate Headcount and FYE



House Research Graphic

Figure 4
Undergraduates as % of Headcount



House Research Graphic

B. Participation in Post-Secondary Education

How has the "rate of participation" of new high school graduates changed?

The "rate of participation" is the percentage of a particular group enrolled in post-secondary education. Examining changes in participation rates is another way of looking at enrollment changes.

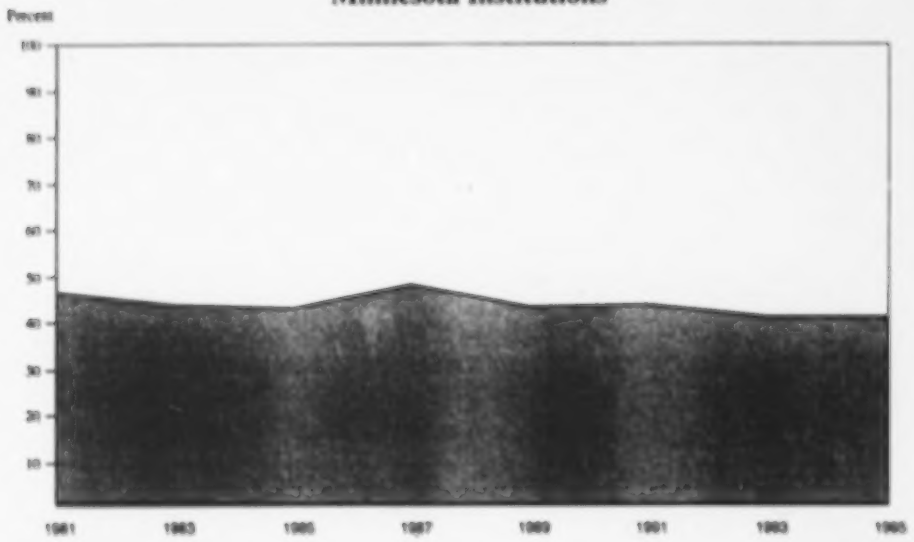
Using HESO's student record data base[1], we determined how many high school graduates enrolled in a Minnesota post-secondary institution in the fall immediately following their graduation. The rates have fluctuated over time, with a peak of 48% in 1987. Since that time, there has been a fairly substantial decline in the percent of students going immediately on to college in Minnesota. By 1995 this rate dropped to about 41% percent, as seen in Figure 5.

How does the rate change if students going out of state are included?

The percentages in Figure 5 do not include Minnesota students enrolling in out of state institutions. We estimate that 14% of new graduates in 1995 enrolled the following fall in another state. This estimate is based on information published by the U.S. Department of Education. Added to the 41% enrolling in Minnesota, this increases the participation rate of 1995 high school graduates to 55% within one year of graduation, as seen in Figure 6.

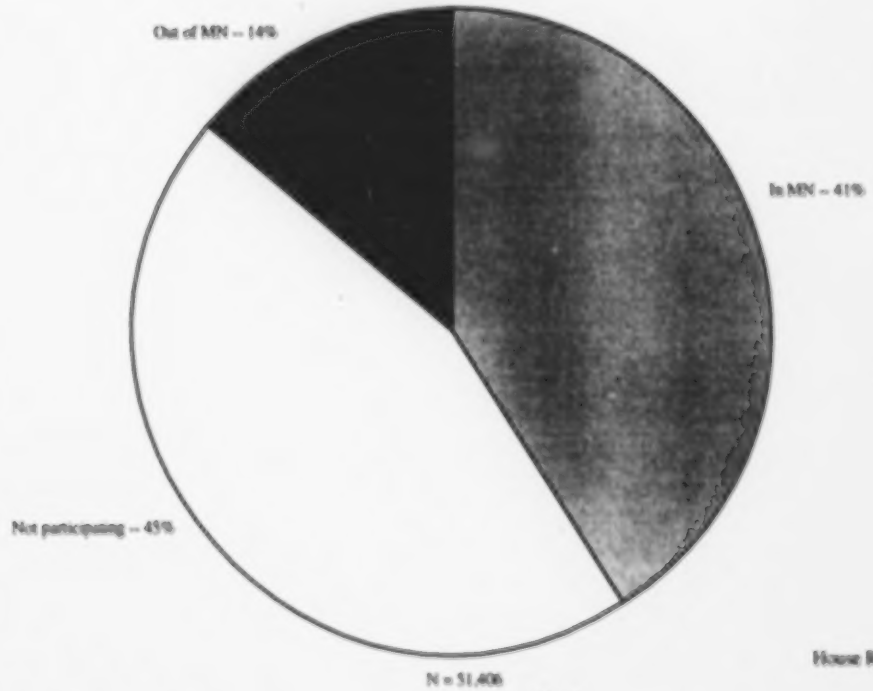
[1] Data were missing for some institutions, artificially reducing participation. We have collected the missing data or substituted averages of the immediately preceding or following years. We have also counted 18 year-olds as new graduates where the date of high school graduation was missing.

Figure 5
First Year Participation of High School Graduates 1981-1995
Minnesota Institutions



House Research Graphics

Figure 6
% of 1995 High School Graduates Participating First Year
Minnesota and Out-of-State Institutions



House Research Graphics

How do participation rates vary regionally in Minnesota?

The map on the opposite page shows the percentage of students residing in each economic development region who enrolled in a Minnesota post-secondary institution immediately after high school in 1995. We do not have the data necessary to show students enrolling in other states by region. The table below gives the specific numbers for each region that are displayed in small pies on the map. The overall participation rate shown for each region may be slightly lower than it should be because regional data are missing in some cases. However, no region should be off by more than a percentage point or two.

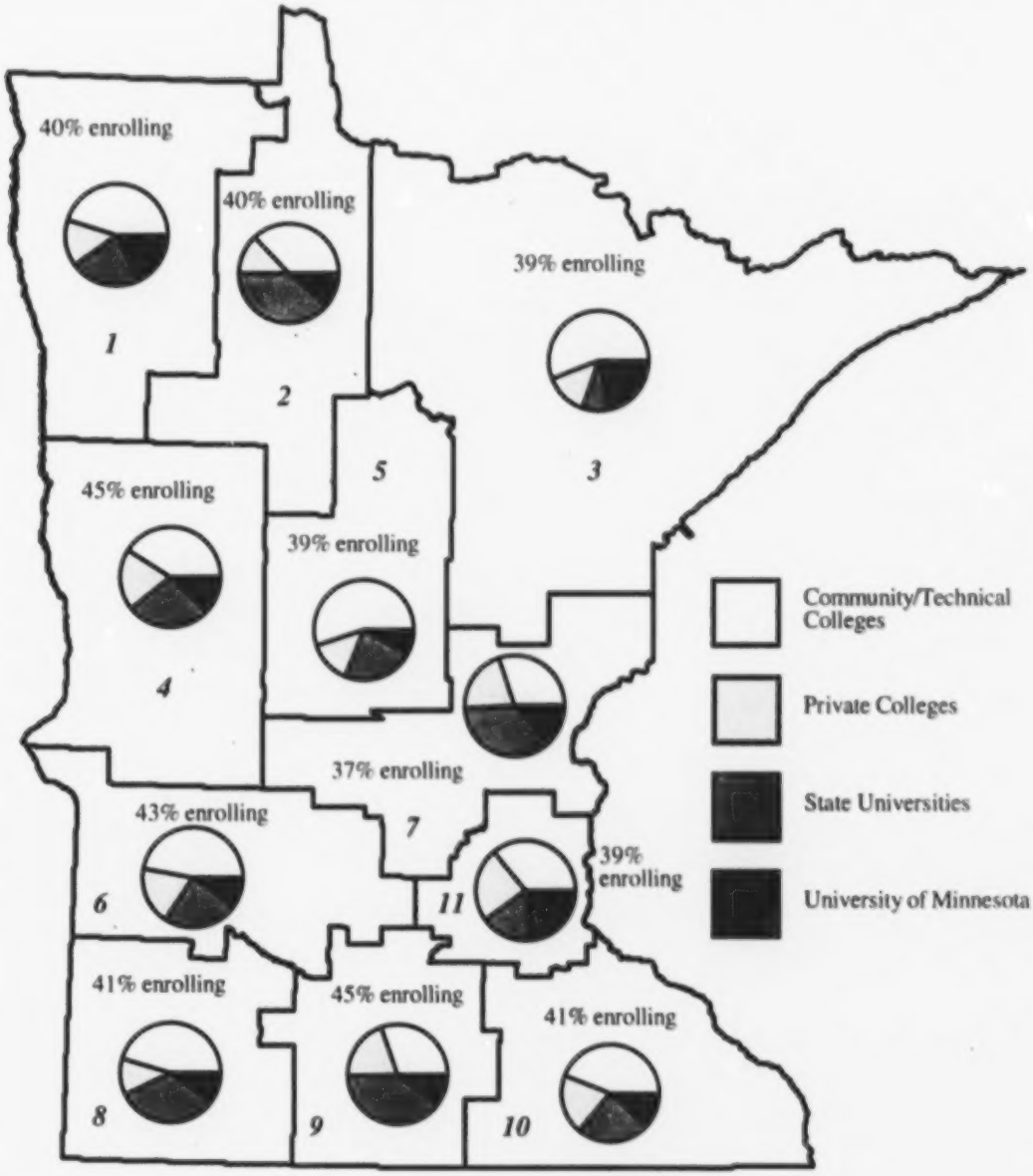
The fluctuation in the total participation rates is significant. In four regions fewer than 40% of the graduating seniors are enrolling in a Minnesota college the following fall. Some of these may be due to border locations where students are crossing into Wisconsin, for example, to go to school. This is likely in the metro area in which many students attend a western University of Wisconsin campus. However, this does not seem to be a likely explanation for many regions, including region 7 which has the lowest participation. The statewide decline in participation is reflected in the regions. Compared to the 1987 peak participation year, participation is down in each region, in most by 5% to 7%.

Enrollment patterns in different types of institutions also vary by region. Part of this is simply a function of access. Regions with several two-year institutions have higher enrollments in that type of college; regions with state universities generally show high state university enrollment.

First Year Participation by Development Region—1995

Region 1 total % enrolling = 40% Of these... 45% in Comm/Tech coll 22% in State U 18% in U of M 15% in private college	**Region 5 total % enrolling = 39%** Of these... 55% in Comm/Tech coll 23% in State U 8% in U of M 14% in private college	**Region 8 total % enrolling = 41%** Of these... 46 % in Comm/Tech coll 33% in State U 9% in U of M 12% in private college
Region 2 total % enrolling = 40% Of these... 37% in Comm/Tech coll 39% in State U 11% in U of M 13% in private college	**Region 6 total % enrolling = 43%** Of these... 47% in Comm/Tech coll 24% in State U 10% in U of M 19% in private college	**Region 9 total % enrolling = 45%** Of these... 30% in Comm/Tech coll 39% in State U 11% in U of M 20% in private college
Region 3 total % enrolling = 39% Of these... 56% in Comm/Tech coll 8% in State U 22% in U of M 14% in private college	**Region 7 total % enrolling = 37%** Of these... 30% in Comm/Tech coll 36% in State U 13% in U of M 21% in private college	**Region 10 total % enrolling = 41%** Of these... 44% in Comm/Tech coll 24% in State U 12% in U of M 20% in private college
Region 4 total % enrolling = 45% Of these... 41% in Comm/Tech coll 27% in State U 12% in U of M 20% in private college		**Region 11 total % enrolling = 39%** Of these... 36% in Comm/Tech coll 16% in State U 24% in U of M 24% in private college

Figure 7
First Year Participation by Development Region



House Research Graphic

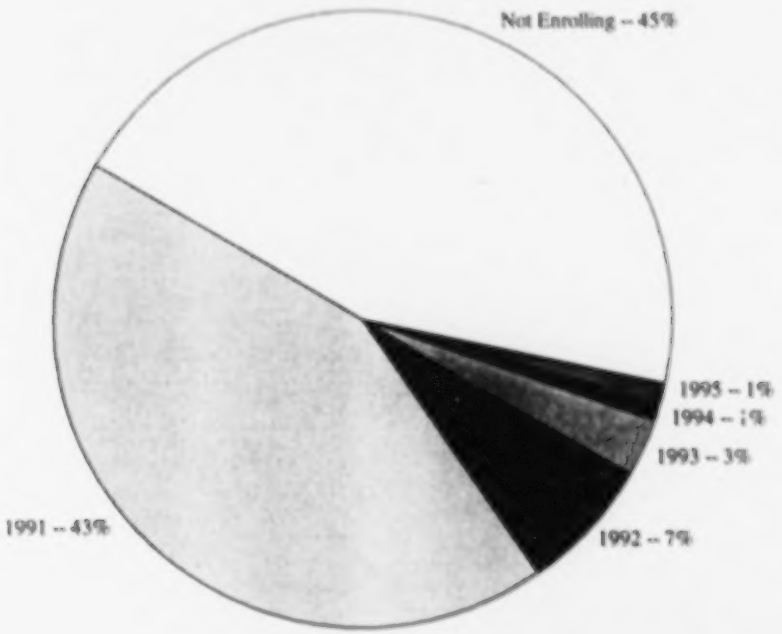
How much does the rate increase if participation is examined for five years after graduation?

Most students who attend college enroll immediately after high school. However, some students delay for a year or two to earn money, travel, or engage in other activities. Others go to work and then decide to go back to school. Proportionately few enroll for the first time more than a few years after high school.

Figure 8 displays the 1991 rate of participation for students within five years of high school graduation. 1991 is the most recent year for which five years of enrollment can be tracked. It begins with a slightly higher first-year figure of 43%, compared to the 41% in 1995.

After five years, a total of 55% of Minnesota high school graduates had enrolled in a Minnesota institution. Good data are not available to track five years of enrollment in other states. However, students who leave the state for college are even more likely to go immediately after high school. Therefore, if the data were available, it is unlikely that they would show much more than the estimated 14% who initially left the state in 1991.

Figure 8
% of 1991 Graduates Participating Within Five Years
Minnesota Institutions



House Research Graphic

How has the rate of participation of traditional and nontraditional students changed?

Changes in the participation rates of both traditional and nontraditional students can be seen if participation is examined by age groups. The pie charts on the opposite page show the rate of participation for four age groups as a proportion of the total number of Minnesota residents in each group. As can be seen, the size of each "pie" reflects the size of the population of that group.

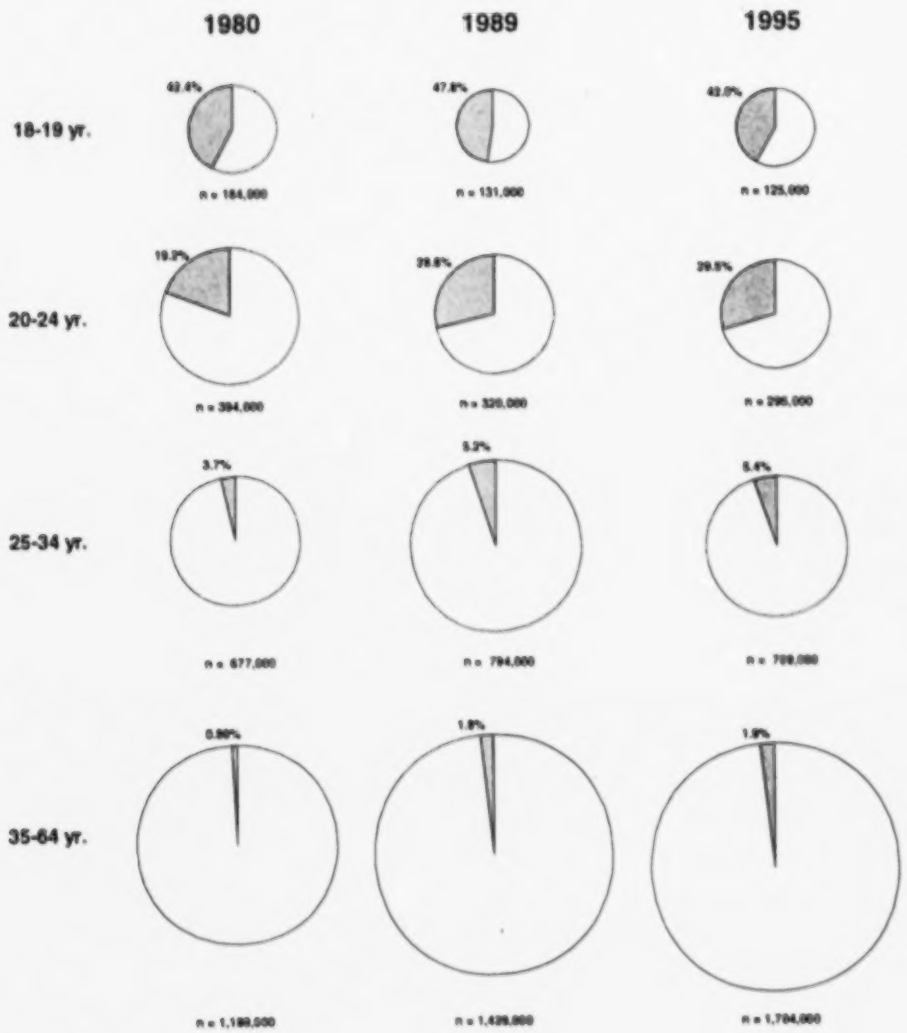
The size of the traditional age population has declined. Rates of participation among 18 to 19 year-olds increased between 1980 and 1989, but returned to their previous levels by 1995. With a smaller pool and less participation, fewer 18 to 19 year-olds are currently enrolled. The size of this group will be increasing over the next ten years, but it will not return to the previous enrollment peaks of the late 1970s.

The 20 to 24 year-old category declined in size but significantly increased in participation between 1980 and 1989. This could indicate that more students are pursuing a four-year degree than in the past. Alternatively, it might indicate an increase in the length of time taken to complete a degree. Its size continued to shrink in the last several years, but participation remained constant.

For nontraditional students, the rates of participation went up slightly between 1980 and 1989—1.5% for 25 to 34 year-olds, and 1% for those 35 to 64 years old. However, the total number of people in these two age groups increased between 1980 and 1989 so that a similar rate of participation produces a greater number of people participating. Thus the increase in the enrollment of nontraditional students during the 1980s appears to be due more to the increase in the size of this population than to an increase in the level of participation. Participation held constant between 1989 and 1995, but the 35 to 64 year-old pool continued to grow.

This increase in the population size of the older age groups is due to the aging of the "baby boom generation." As the baby boom passes on to each successive age group, the age group it leaves declines. Most participation among 35 to 64 year-olds occurs before age 45; this 35 to 45 year-old subgroup will be shrinking as more "baby boomers" begin to hit their mid-forties. By 1999, the last of this generation will move into the 35 to 64 year-old group which should signal the last large enrollment of these older students, unless the participation rate increases substantially.

Figure 9
% Participating by Age



House Research Graphic

C. Characteristics of Students and Enrollment

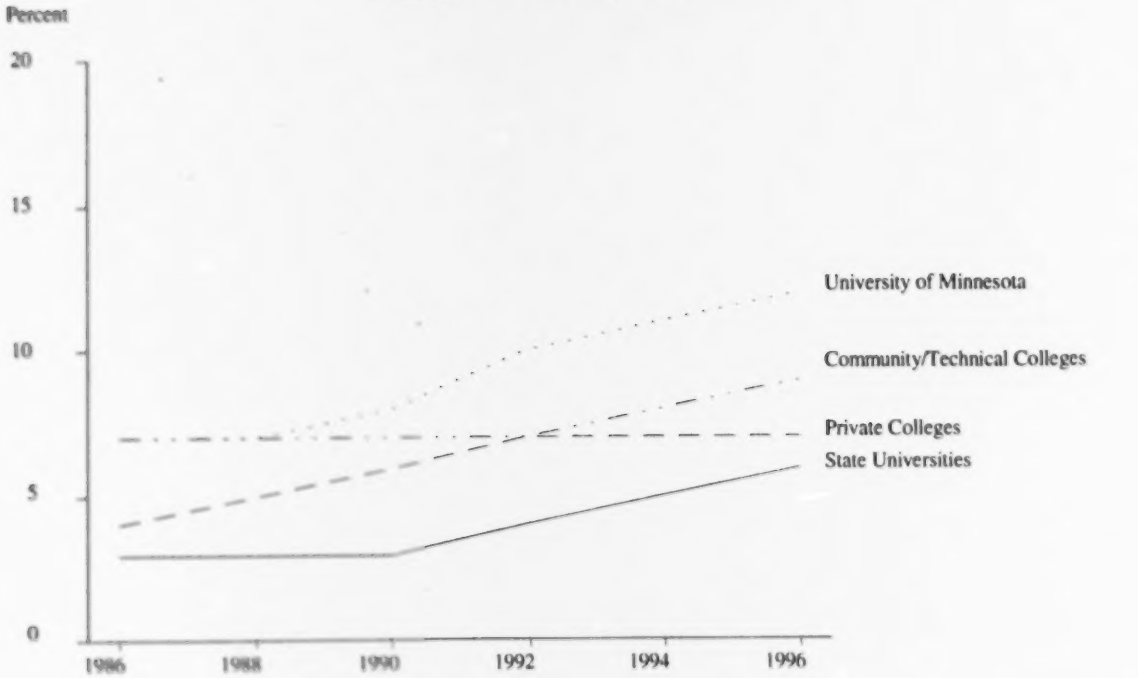
How have the enrollments of minority students changed?

Minority students comprise a small, but growing portion of enrollment. In each sector, the percent of minority students increased between the mid-1980s and mid-1990s, as seen in Figure 10. The state universities began and ended the period with the fewest minority students. The University of Minnesota is the only sector in which minorities comprise more than 10% of enrollment, although the two-year colleges are heading toward this mark.

How have the enrollments of men and women changed?

Historically, men enrolled in higher education at a greater rate than women. This began to change in the 1960s, and by the mid-1980s female students outnumbered males in Minnesota. No significant changes occurred in the proportions of men and women in the last ten years. Female enrollment grew somewhat and then slightly declined in the community/technical colleges, ending at approximately 54% in 1996. The private colleges increased their female enrollment from about 56% in 1986 to 60% in 1996. The University of Minnesota moved from a slight preponderance of males to a 50/50 split in 1996. The state universities' female enrollment remained stable at about 55% throughout the period.

Figure 10
Changes in Minority Enrollment



House Research Graphic

How have full and part-time enrollments changed?

As seen in Figure 11, part-time enrollment grew at a much faster pace than full-time enrollment through the 1980s. This is true in all the post-secondary systems, but particularly at the community and technical colleges.

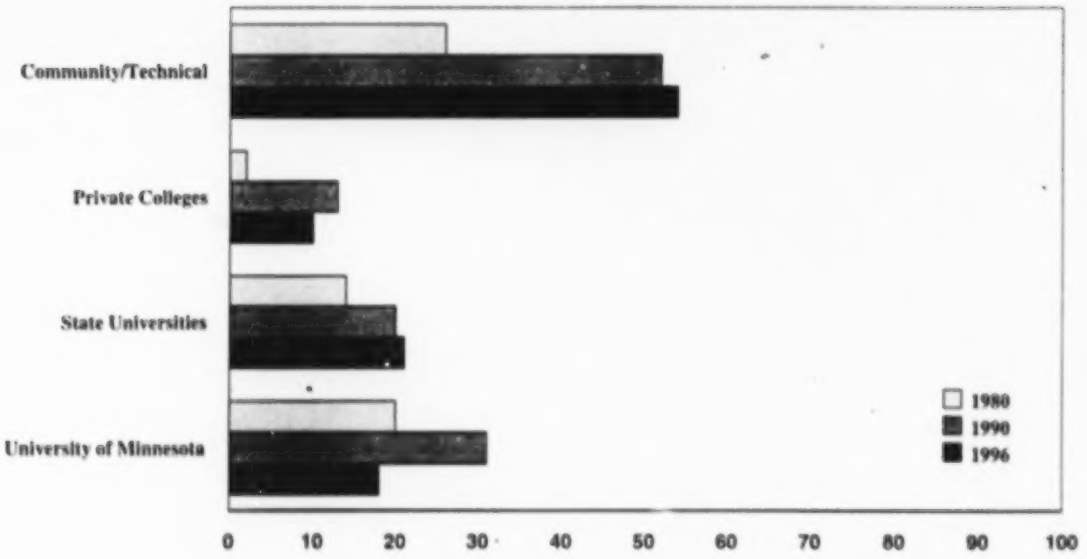
This trend slowed in the 1990s. The two-year public colleges and the state universities had a very slight increase (about 1%) in the proportion of part-time students between 1990 and 1996. At the private colleges and the University of Minnesota, the proportion of part-time students decreased during this period. For the private colleges this was a small decrease of about 2.5%, but at the University of Minnesota part-time students fell from 31% to 18% of all undergraduates.

Increases in part-time enrollment account for much of the discrepancy between headcount and FYE seen earlier. The reversal at the University of Minnesota helps explain the significant narrowing of its gap between these two enrollment measures (see Figure 3).

How have the proportions of resident and nonresident students changed?

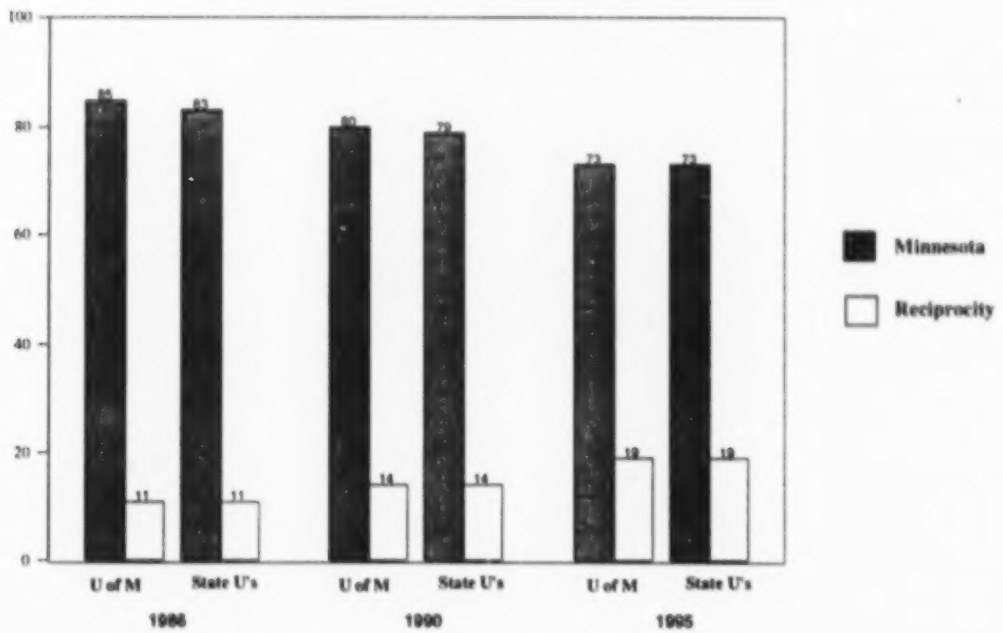
Changes in the proportion of resident students is seen most clearly in new entering freshmen. Figure 12 shows that the public four-year sectors saw an increase in the proportion of students from reciprocity states (Wisconsin, North Dakota, South Dakota and Manitoba) and an accompanying decrease in the proportion of Minnesota students throughout the last ten years. Data for the two-year campuses are not very reliable and therefore are excluded. The private colleges are excluded from the graph since the concept of reciprocity states does not apply to them. However, in looking at Minnesota enrollment versus other states, the private colleges have remained at about 60% to 65% Minnesotan throughout the period.

Figure 11
Changes in % of Undergraduate Part-time Enrollment



House Research Graphic

Figure 12
% of Freshmen from Minnesota and Reciprocity States



House Research Graphic

Has the number of new entering freshmen (NEF) and new transfer students changed?

Figure 13 shows new entering freshmen (NEF) and transfers for each of the four-year sectors. Collection of data on these variables from the two-year systems changed during this period so it is not really possible to track changes. Each of the three sectors is represented by a pair of matching lines on the graph. The upper line in each pair is NEF, the lower line is transfers.

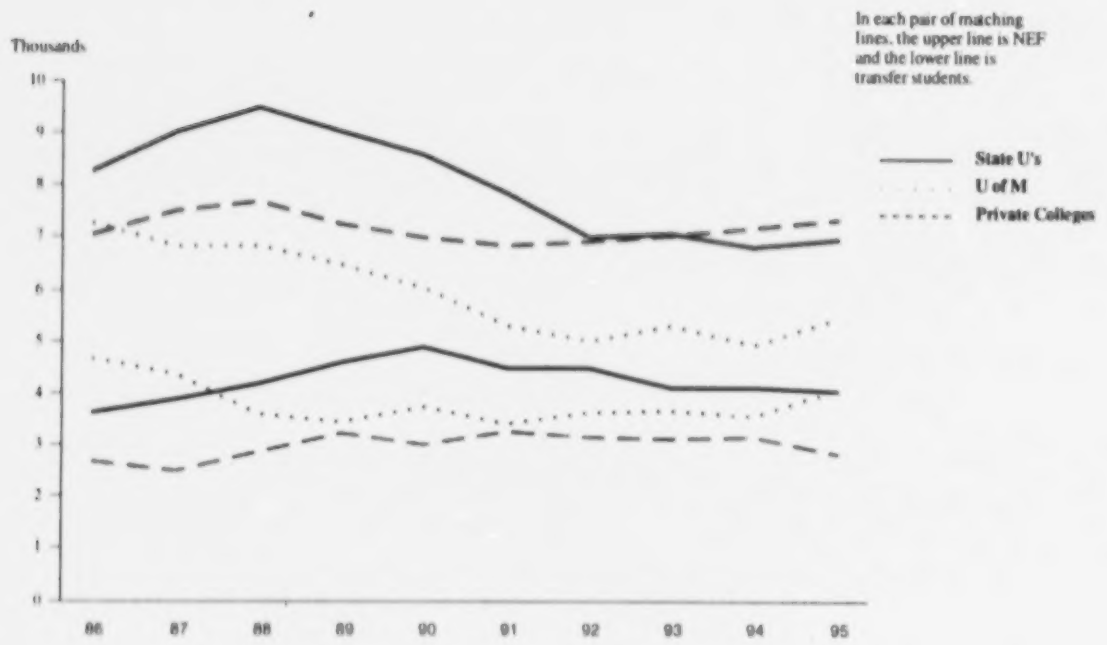
The most obvious component of enrollment change is growth or decline in the number of NEF. This especially is true when changes occur for more than a year since the cumulative effect of successive smaller classes is quickly felt on total undergraduate headcount and FYE. There were significant changes in the number of NEF during the last ten years. In 1986, approximately 23,000 NEF entered a four-year college in Minnesota. The number peaked two years later with about 24,000 students. By 1992, NEF dropped to 19,000. In 1995 it grew somewhat closer to 20,000. While each of the three sectors experienced changes, the patterns have differed. The state universities experienced the greatest growth and decline, while the private colleges saw the least change. The University of Minnesota took all of its undergraduate enrollment reductions from its freshmen classes, so its decline has been significant although it has begun to rise somewhat in the last couple of years.

It is interesting to note that the private colleges moved from enrolling the smallest to enrolling the largest of the three freshmen classes. This change is not attributable to any real change at the private colleges. It is largely due to the decline in the size of the NEF at the public institutions.

Transfer students are the other major factor in enrollment increases. Growth or decline in the number of students transferring into a system can help explain a change in total enrollment. The number of transfers in each sector changed from year to year. The state universities saw a large increase in their transfers in the late 1980s and early 1990s, followed by a decline back to their mid-1980s rates. The University's number of transfer students declined after 1987 and then remained stable, with some increase in the last couple of years. Transfer students in the private colleges have been fairly consistent, with slight fluctuations from year to year.

Interestingly, the total number of transfer students across all three sectors has remained relatively unchanged throughout the period. The differences among the years is more in "market share" or which sector is gaining the smaller or larger share of the total. The figure opposite shows the change in the number of transfers by sector.

Figure 13
Number of New Entering Freshmen (NEF) and Transfer Students
1986-1995



House Research Graphic

2. State University Enrollment Trends

Part 2 analyzes what happened to campus enrollments in approximately the last ten years. The state universities were chosen for this analysis for three reasons: 1) the enrollment in these institutions was volatile during this period; 2) the enrollment data are more reliable and more complete than those available for the two-year colleges which also had very volatile enrollment; and 3) the number of campuses is small enough to allow some meaningful analysis and comparisons.

The intent of this analysis was to answer the question raised by many legislators of why enrollments have been declining the last few years. To try to answer the question, we looked at system and campus enrollments for the last 15 years, examining changes in numbers, student characteristics, and certain types of enrollment. We also examined statewide and regional demographic trends, participation, and policy changes. Very few of these factors seem to be related to the enrollment changes.

We have not succeeded in answering the legislators' question as to why, but we have found some factors that clearly have a bearing on how enrollment has changed. The questions in this chapter focus on those factors. They include the following:

How have state university enrollments changed?

What has happened to the number of new entering freshmen (NEF) at state universities?

How do these periods of larger and smaller freshmen classes compare to changes in total enrollment?

What are the cumulative effects of all these changes in NEF and headcount?

Have there been changes in the number or qualifications of applicants?

Is there any other change in the characteristics of freshmen classes?

Is there any change in the regional distribution of freshmen from Minnesota?

Are there changes in enrollments of any categories of students other than freshmen?

How have state university enrollments changed?

The systemwide change over this time period was shown in Part 1 (see especially Fig. 3). The figure on the opposite page displays the changes in undergraduate and graduate enrollments for each campus from 1986 to 1996. Specific numbers are shown for the beginning and end of the period, as well as each campus's peak year. Off campus and extension enrollments are excluded. Metro State is excluded because of the unique nature of its enrollments and history.

The six state university campuses vary widely in size. The smallest campus, Southwest State, peaked at about 2,700 students in 1990, and then declined each year to its present size of about 2,100. While the total change is only about 600 students, it comprises a significant portion of Southwest State's enrollment.

Bemidji State is also fairly small although it is about twice as large as Southwest. Bemidji's enrollment increased by about 800 and has since declined by about 500, leaving it roughly 8% larger than it was in 1986.

Winona State's enrollment jumped by nearly 2,000 between 1986 and 1988. After that brief period, it has had the most stable enrollment of all the campuses. While its enrollment has declined, in 1996 it enrolled nearly 1,000 students more than in 1986.

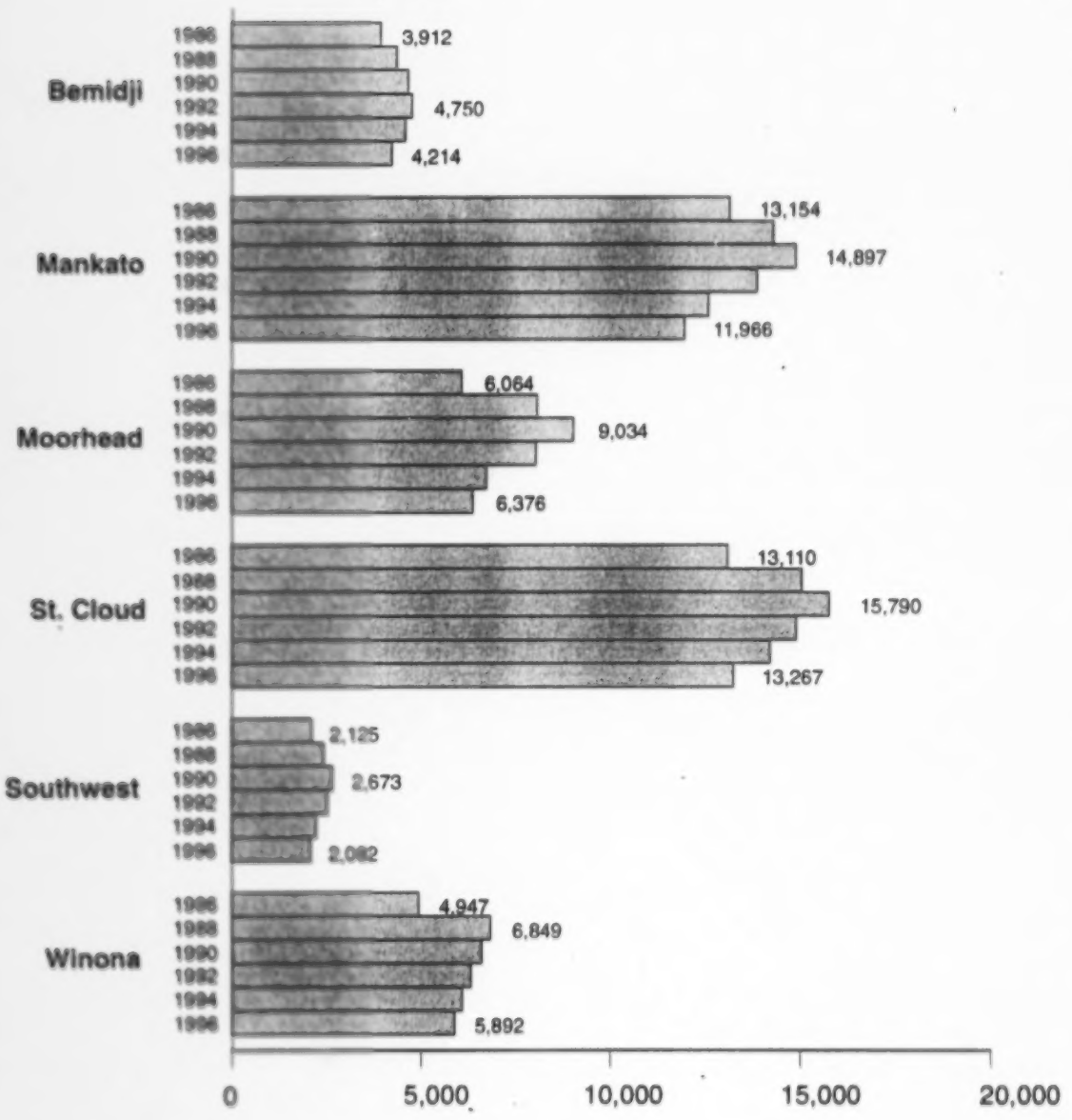
Moorhead State is close to Winona in current size, but its enrollment has been among the most unstable. It jumped by 2,000 between 1986 and 1988, and then added another 1,000 between 1988 and 1990. Since that peak, its enrollment has declined by nearly 1/3 and is continuing to decline, although the campus remains slightly larger than it was in 1986.

Mankato State's enrollment also appears quite unstable. It grew at a more balanced pace than some of the campuses, adding nearly 2,000 students between 1986 and 1990. Since that time its enrollments have continued to drop. The 1996 enrollment is 3,000 below the 1990 peak and over 1,000 lower than it was in 1986.

St. Cloud State, the largest state university, experienced a similar pattern to Mankato in its growth in the late 1980s, increasing by 2,700 students. It has since declined and by 1996 it returned to approximately the same size as it had been in 1986.

Overall, the changes in the six state universities added approximately 10,300 students between 1986 and their peak in 1990. In 1996, the six campuses had returned to within 500 students of their 1986 level.

Figure 14
Changes in the Undergraduate and Graduate Headcount
State University Campuses
1986-1996



House Research Graphic

What has happened to the number of new entering freshmen (NEF) at state universities?

The major factor in the enrollment decline of the last few years is the decline in the number of new entering freshmen. It seems too obvious for much commentary, but it cannot be overstressed how important this decline is to the changes in state universities. In Part 1 the overall decline in NEF in the public four-year campuses was discussed, and it was noted that a loss in NEF was particularly important when the change occurred for more than one year. This is what has happened in the state universities. Successive years of smaller entering classes produced much of the overall decline in headcount of the last several years.

Figure 15 shows the changes in NEF each year at each of the state university campuses (Metro State is excluded because it has only recently added a freshman class). In every campus there is a curve in the NEF, with smaller incoming classes in the early 1980s, large incoming classes in the late 1980s, and smaller classes again in the 1990s.

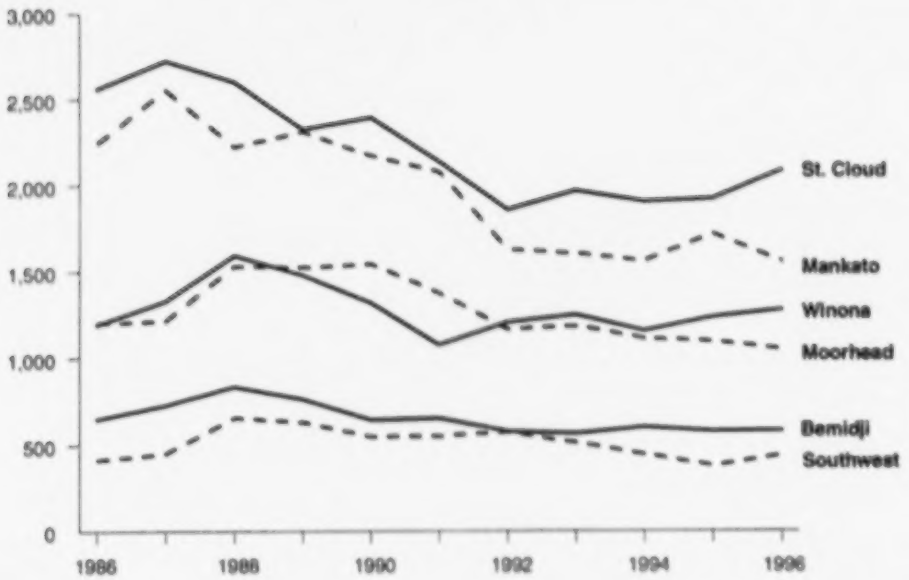
How do these periods of larger and smaller freshmen classes compare to changes in total enrollment?

The increase in NEF that began about 1986 contributed significantly to the enrollment peak of the late 1980s and early 1990s. The growth also was attributable to other factors, such as the increase in the length of time to completion. The decline in enrollment of the 1990s is also clearly linked to the decline in NEF.

Figure 16 shows the sum of all state university NEF over five years compared to the undergraduate headcount at the end of that five-year period. It does this for three different times: 1982 to 1986 when enrollments were fairly stable, 1987 to 1991 when enrollments began to skyrocket, and 1992 to 1996 when enrollments fell dramatically.

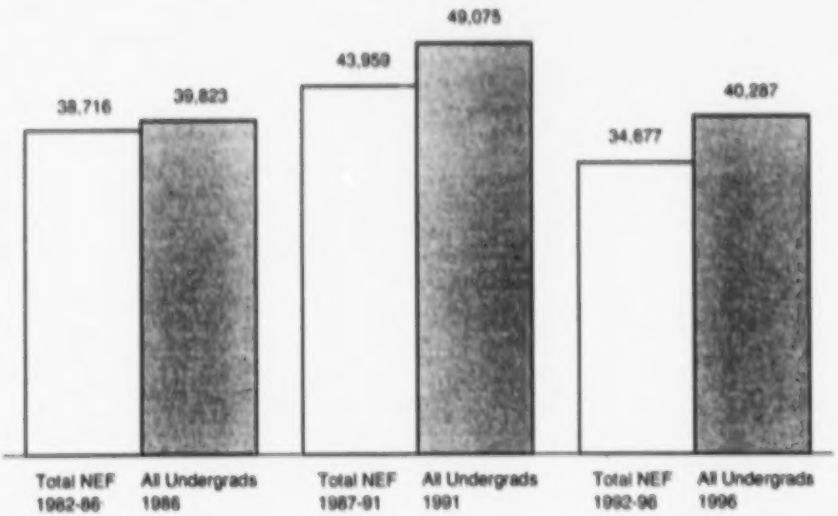
In the first period, NEF are nearly equivalent to headcount. Most students enrolled full-time and within five years graduated or left school. In the middle period, there obviously is a strong link between NEF and headcount, but the difference is greater than in the first period. During this time, more part-time students enrolled, more full-time students stayed enrolled longer, and more students moved around to different colleges, or "stopped out" and returned. In the last period, the declining numbers of NEF resulted in a large drop in enrollment. There are still a substantial number of students remaining longer than four or five years and still a number who transfer, so there is not a perfect match between NEF and headcount.

Figure 15
Number of New Entering Freshmen



House Research Graphic

Figure 16
NEF Growth and Decline Compared to Undergraduate Headcount Changes 1982-86, 1987-91, and 1992-96



House Research Graphic

What are the cumulative effects of all these changes in NEF and headcount?

The structure of class levels in a stable college in which students progress in four years from freshmen to senior, would look something like a wedding cake. The bottom "layer" would be almost entirely NEF and each "layer" above it would be slightly smaller. This model is seen in some private colleges, but not in Minnesota's public colleges. Public colleges have a significant amount of student movement with students dropping out and transferring. Additionally, most of those who stay don't complete in four years. Figure 17 compares class levels from 1979, 1991 and 1995. The bottom "layer" shows NEF as well as continuing freshmen—those who didn't complete enough credits to become sophomores.

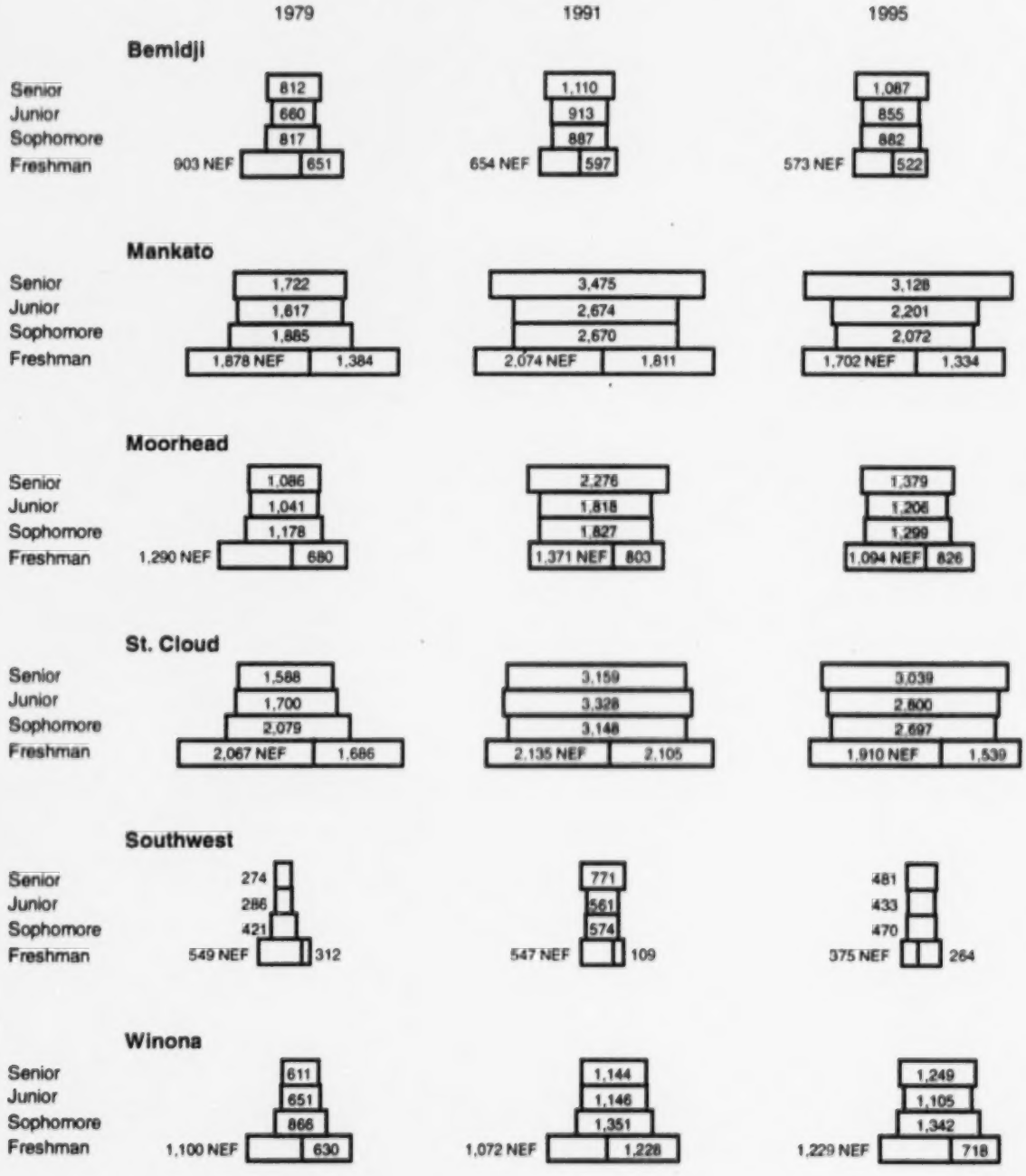
Between 1979 and 1991, the state universities experienced substantial growth and change in the distribution of students among class levels. The changes in the patterns are due to the increase in NEF and to the length of student enrollment. The patterns vary considerably by campus, but all the campuses show extensive growth in continuing freshman and some appear to have similar growth at the senior level in what has been called "5th year seniors." The increase in part-time enrollment at the state universities is not large enough to account for these class level changes; a portion of these students were full-time but remained enrolled more than four years.

Comparing 1991 and 1995 shows the effects of fewer NEF. All class sizes are smaller than they were in 1991. The shapes of the "wedding cakes" have not appreciably changed at most campuses. There are still a significant number of continuing or second-year freshmen; there are still a larger number of seniors than juniors, showing the length of time to graduation. But especially for those campuses that have had the most serious enrollment declines in NEF, the effect has been to reduce the class sizes each year, thus causing a significant decline in overall enrollment.

Mankato State shows the effect of the change in incoming class size. Its large senior class reflects the larger number of NEF from around 1990, while its freshman and sophomore classes are considerably smaller. Mankato's NEF was up somewhat in 1995 (although it declined again in 1996) reducing the difference between the freshmen and sophomore class sizes. Mankato also had a decrease in the number of its continuing freshmen. While this could mean that students are progressing more rapidly, it appears more likely that, in addition to a smaller freshman class the year before, it may relate to a decline in retention.

Moorhead State's sophomore and junior classes are one-third smaller in 1995 than in 1991, showing the decline that occurred there in the last few years. The senior class is smaller than would be expected from the number of NEF in 1990 or 1991. This may indicate that Moorhead is down not only in its number of freshmen but in the retention of students after they enroll. Southwest may also have lost students through a decline in retention rates. Its senior class is considerably smaller than in 1991. Additionally, the disproportionately small number of NEF in 1995 will lead to smaller upper division classes in the future. However, the number of NEF did rise somewhat in 1996.

Figure 17
Changes in Distribution of Students by Class Level



House Research Graphic

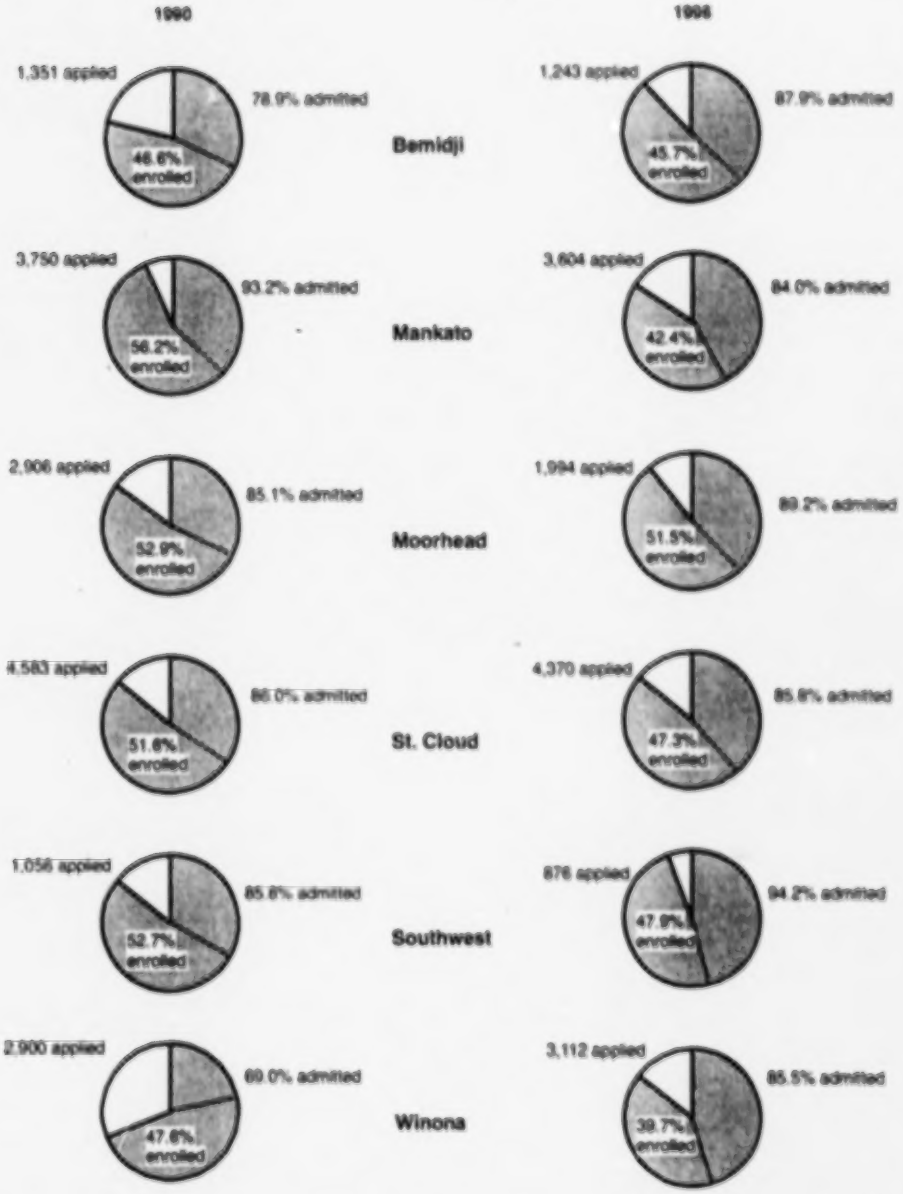
Have there been changes in the number or qualifications of applicants?

Admissions is a three-step process: students apply, some are admitted, and some then enroll. As would be expected in light of the enrollment changes, there has been a decline in the number of students applying for admission to a state university. The only data that we have on this come from the campus admissions offices, which report basic numbers associated with applications. Applications declined significantly from 1990 on all campuses except Winona State. Mankato State and St. Cloud State recovered in their applicant numbers by 1996, while Moorhead and Southwest continued to fall.

Most campuses show an increase in the proportion of students admitted, although this is not the case at St. Cloud or Mankato. Working against the gain that comes from admitting more students, every campus declined in the percentage of students who, having been admitted, choose to enroll. While the decline is small at some campuses, it is significant at others, as seen in Figure 18. Even those campuses that did not decline or that rebounded in number of applications continued to have declines in the percent of students who choose to enroll at a campus after having been admitted.

The only thing we know about any of these potential students is the distribution of those who enroll on measures such as high school rank and ACT score. This doesn't necessarily mean much since the same information is not available on all applicants or all acceptances. Given these limitations, two campuses—St. Cloud State and Winona State—show a decline in the number of students enrolling who are from the bottom half of their high school classes. Winona State also shows an increase in the proportion of students scoring well on the ACT exams. However, none of this can really explain enrollment declines since Winona's enrollment has been more stable than most campuses. In fact, Winona State officials suggest that its increase in acceptances and declines in the percent enrolling is related to the higher caliber of students choosing to apply to the campus.

Figure 18
Changes in Number of Applicants Accepted and Enrolling
1990 and 1996



House Research Graphic

BEST COPY AVAILABLE

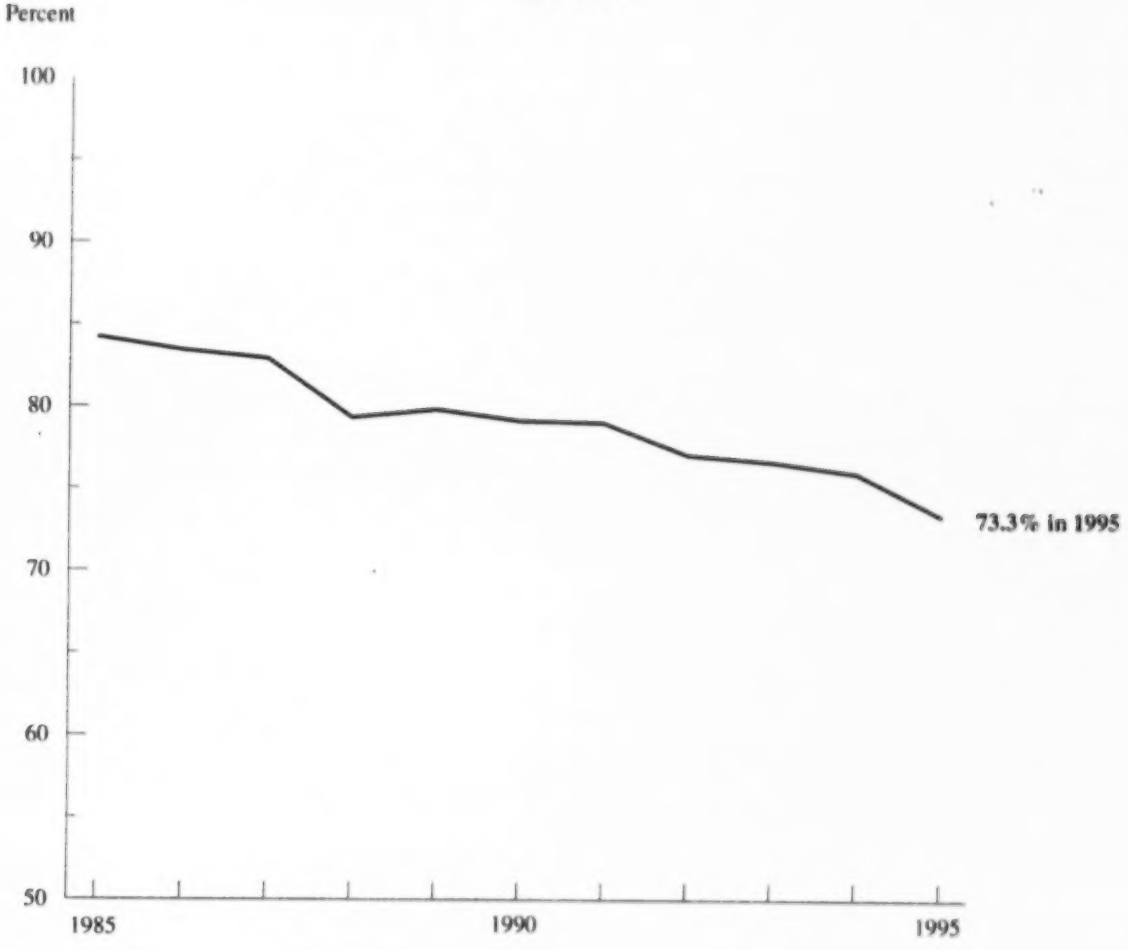
Is there any other change in the characteristics of freshmen classes?

The only other change to report is an increase in the proportion of freshmen from other states, especially reciprocity states (Wisconsin, North Dakota, and South Dakota). This increase has actually mitigated the loss of enrollment at state university campuses. Had the out of state students not increased, the enrollment loss at many campuses would be higher.

Figure 19 shows that in 1985, when enrollments were pretty stable, 10% of the state university NEF were from reciprocity states. In 1995 this had nearly doubled (19%). The number of reciprocity students grew along with other enrollments in the late 1980s, and then jumped again quite recently. In actual numbers the latest growth only amounts to about 150 additional students. The proportion increased because the in-state students declined.

The distribution of these students has changed somewhat. Moorhead State lost a portion of its North Dakota enrollment, dropping from 516 students in 1991 to a low of 380 in 1993. Those numbers have come back part way in 1994 and 1995. St. Cloud State and, to an even greater extent, Winona State increased their reciprocity enrollments over this period. Both also have some increases in their enrollments from nonreciprocity states.

Figure 19
Proportion of NEF from Minnesota
1985-1995



House Research Graphic

Is there any change in the regional distribution of freshmen from Minnesota?

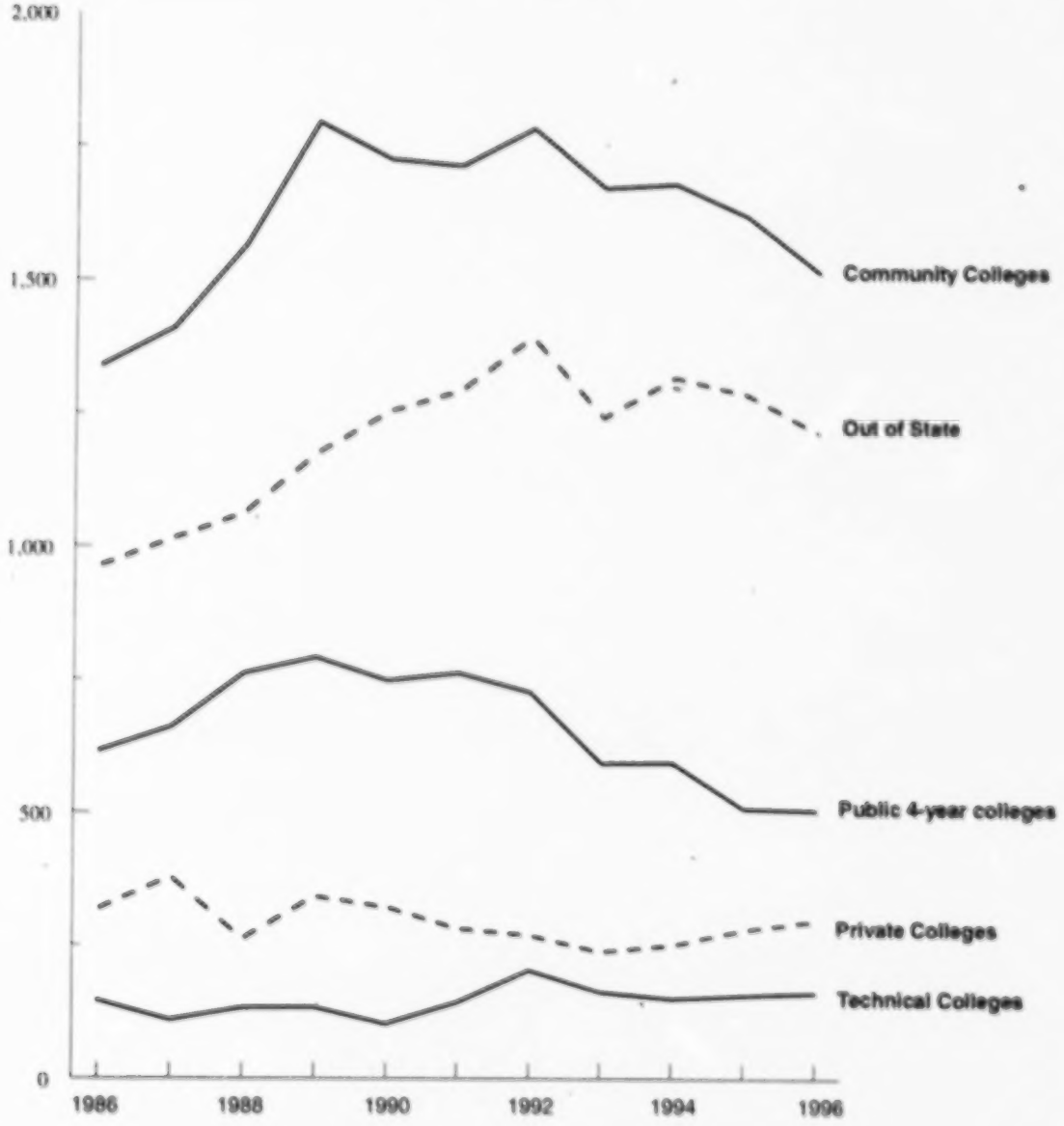
Approximately 30% to 40% of new freshmen at each state university come from the economic development region in which the campus is located. While there is some fluctuation in this percentage from year to year, it has remained at about the same level whether enrollments are peaking or declining. The proportion of students from the metro area also remained pretty consistent over time, although it does vary across campuses. Campuses closer to the metro area—St. Cloud, Mankato and Winona—draw about 35% to 45% of their students from the area. Campuses more distant—Bemidji, Moorhead, and Southwest—tend to draw 15 to 25% from the metro area. As the population of younger people declines in greater Minnesota, there may be an increase in the share of the enrollment from the metro region at these more distant campuses.

Are there changes in enrollments of any categories of students other than freshmen?

The number of transfer students changed from the mid-1980s to the mid-1990s. Considering all transfers, regardless of the system at which they began or their year in school, the number of students transferring into a state university grew between 1986 and 1989 by about 800, from 2,600 to 3,400. This explains some of the headcount increase during this period. (Metro State is excluded from all transfer numbers because it changed its definition and method of counting transfer students in 1993).

Between 1992 and 1996 the picture changed. In 1992, 3,200 students transferred into a state university. By 1996 there were only 2,500 transfers, 100 fewer than in 1986. These increases and declines came from every sector, as seen in Figure 20. The only source that remained much larger than it had been in 1986 is the out-of-state transfers. Transfers from nonreciprocity states began to grow in the early 1990s and replaced some loss from reciprocity states in the last few years.

Figure 20
Number and Sector of Origin of Students Transferring to State Universities
1986 to 1996



House Research Graphics

3. Conclusions and Policy Implications

A major purpose of this research project was to identify why there was a decline in Minnesota's post-secondary enrollments. We have failed in this regard. With the data available, enrollment changes can be described and certain trends can be analyzed, but there is no readily apparent answer as to why there is decline at the state universities or elsewhere. This is both frustrating and troubling. It is not clear if an answer would be forthcoming if there were more detailed data available on students or if there simply is no clear answer.

There are certain things that we have learned do not explain enrollment changes.

- Student characteristics such as age, gender, or home region have not changed appreciably. There is not an identifiable group or subgroup that was going to a state university and no longer is.

- There were declining high school graduates for part of the period, but this does not explain the change since much of the secondary enrollment changes occurred during the 1980s. In fact, graduates began to increase again in 1993, while state university enrollment continued to drop and community and technical college enrollment began to drop.

- Changes at the University of Minnesota and the private colleges do parallel either the growth or decline of state university enrollments. Private college undergraduate enrollments increased somewhat in the late 1980s and have remained constant through the 1990s. While the University of Minnesota experienced an enrollment drop, this was the result of an intentional change by the University to decrease the size of its undergraduate enrollment and to become more selective in its enrollment. Data indicate that after some reductions, the University's enrollment has stabilized and even increased somewhat and it has significantly reduced the disparity between headcount and FYE by focusing its enrollment on more full-time undergraduates. The University's data, not reported here, demonstrate substantial movement toward its goal of selectivity.

- Historically there has been some relationship between the economy and enrollment. When the economy is strong, enrollments decline since students can get and keep jobs without college or without completing a program or degree., However, this characteristic appears to affect primarily the two-year sector, especially the technical colleges. Moreover, the timing of the state university declines would indicate that the economy is not a causal factor since the declines began when the economy was weak in the early 1990s.

It is possible that the data showing that some campuses are now enrolling fewer students ranking in the bottom half of their class indicates a possible direction to examine. However, these changes are found on only two campuses and they are not the ones which have been most seriously affected by the declines. Available data on qualifications and performance of students are limited, so perhaps there is more to study here.

The only identifiable factor that parallels the enrollment changes is the level of state appropriations. After serious budgetary problems in the early 1980s, appropriations increased significantly in the latter half of the decade. They began to decline with new budget problems in the early 1990s. It doesn't seem very likely that appropriation changes actually cause enrollment to change, but it is possible that less money leads to changes in recruiting or marketing, or in student services that somehow translate into fewer freshmen. However, if this were true, one would expect to see the community/technical colleges' enrollments decline sooner than they did. It is possible that appropriation declines in the 1990s boosted tuition to a level where it affected state university and community/technical college enrollments. These sectors enroll the lowest income students, so they would be most likely to be affected by these increases.

It may be that we are asking the wrong question. Perhaps the question is not why enrollments declined in the 1990s, but why they increased in the late 1980s. While we still don't know the answer, it may be that lower enrollments are the norm and the peak was an aberration. In 1990 the legislature asked the public systems to report on quality in light of all the enrollment growth. While the reports themselves didn't provide much insight, the recognition by the legislature that large enrollments are not necessarily beneficial to education eventually led to the formation of a task force on state funding to try to create a state formula that was not based on growth incentives. (A new formula was adopted in 1994 but appropriations have not been sufficient to fully fund it.)

In an earlier House Research project on retention and enrollment in which about 1000 students were interviewed, there was a clear dissatisfaction among some state university students with large classes, lack of sufficient sections, and general overcrowding. Perhaps the lower enrollments provide a better educational experience for students and should be encouraged.

The only factor identified in this report that clearly contributed to the decline in freshman classes is the drop in participation of Minnesota high school graduates. The participation decline is not sufficient to explain the entire loss of NEF, but it is a contributing factor. This is an issue that raises some clear policy issues.

The rate of new graduates going immediately on to college in Minnesota peaked in 1987 at 48%. In 1996, this had fallen to 40.5%. The map on page 12 indicates that in some regions of the state participation is even lower. While the percent leaving Minnesota to attend college increased during this same period, that increase is not sufficient to offset the loss in overall participation. Moreover there is a decrease when you look over five years following graduation. 62% of the class of 1987 enrolled in a Minnesota institution within five years of graduation. For the class of 1991, this rate dropped to 55%.

The rate of participation is particularly important in light of some other factors.

- Economic and technological changes are making it more important that people have at least some post-high school education. While some have suggested that most new jobs won't require college degrees, this is a very disputable argument. The move to a post-industrial, knowledge based economy is likely to produce more jobs that demand more education. Even if college degrees are not necessary to do particular work, they may be

necessary to compete successfully for the job. One of Minnesota's advantages in competing well nationally and internationally has been the high level of education of its workers.

- At the same time that Minnesota's participation is falling, national reports indicate that participation in other states is increasing. National data are often not very reliable, so it is difficult to assess the accuracy of these figures. However, if they are correct, then the seriousness of the decline in Minnesota is heightened.

- Participation is calculated based on the number of high school graduates. Since there has been an increase in the high school drop out rate, the decline in participation is underestimating the growth in the number of young people not going on to college. Not only are fewer finishing high school, but fewer of those who are finishing are then going on to college.

- Adding to the significance of the point above, over the next ten years Minnesota will have an increase in the size of its high school age population. Much of this increase will come from lower income and minority families who do not have a history of college participation. Unless participation declines are reversed, this change in population is likely to exacerbate the current decline which, in turn, will affect the state's economy as well as the enrollment rolls of some of the colleges and universities. To the extent that the population outside the metro area is declining, the state universities in particular will need to compete for this new college population that will be primarily from metro area high schools.

While further research into participation was beyond the scope of this project, these conditions suggest that it is worthy of study. It would be especially valuable to try to determine if any group of students is attending less. It may not be a coincidence that the state universities and community/technical colleges are hardest hit by enrollment declines and that they are the sectors that enroll the greatest number of "marginal" students—first generation college students from lower and middle income families who are not usually at the top of the class academically. Since this category of students is growing and will continue to do so, decreases in participation would be particularly significant for future enrollment levels as well as the state's labor force.